

Summarized Task Hazard Analysis
Former Benicia Arsenal, Benicia, California

Activity Site Reconnaissance

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Contact utility companies Inspect site Walk the site Check equipment Load equipment	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Poison oak, stinging nettle, thistle, stinging insects, black widow, brown spider. Lifting hazards	Employees of utility service provider must be escorted by OE-qualified personnel Wear clothing appropriate to weather conditions Use sunscreen Watch carefully where you walk Do not step in shadows until you are sure of your footing Shadows may hide small animals, pits, holes, or other areas of unstable footing Carefully choose your footholds when crossing rocky, uneven, or loose ground surfaces Optimize ergonomics of instrument handling
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Level D PPE (see Section 1.12.1)	Stay within sight of buddy	HAZWOPER Qualified Site-specific training Review and comply with SSHP Graduate of U.S. Navy EOD School (Escort Personnel only)

Summarized Task Hazard Analysis
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Activity Vegetation Removal

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Use hand tools to clear vegetation Use power tools to clear vegetation	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Poison oak, thistle, stinging insects, black widow, brown spider Power Tools Heavy machinery	Must be escorted by OE-qualified personnel Level D PPE, leather palm working gloves, and hearing protection Apply OE safety concepts and basic considerations Proper footing Use flagging system to mark OE Use eye protection Trained personnel only
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Hand tools, power equipment, Level D PPE (see Section 1.12.1) Heavy machinery (see Section 1.11.3)	Daily equipment inspection	Experience with the hand/power tools HAZWOPER Qualified Site-specific training Review and comply with SSHP Graduate of U.S. Navy EOD School (Escort Personnel only)

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Activity Fence Removal and Installation

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Remove fencing and fence posts Install fence posts and fencing Inspect fence installation locations	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Poison oak, stinging insects, black widow spider, brown spider Lifting hazards	Employees of fencing subcontractor must be escorted by OE-qualified personnel Wear clothing appropriate to weather conditions Use sunscreen Watch carefully where you walk Do not step in shadows until you are sure of your footing Shadows may hide small animals, pits, holes, or other areas of unstable footing Carefully choose your footholds when crossing rocky, uneven, or loose ground surfaces Optimize ergonomics of tool handling
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
White Pulse Induction Metal Detector, fence posts, fencing, post hole digger, slide hammer, Level D PPE (see Section 1.12.1)	Daily check of metal detector using known source Stay within sight of buddy	Site-specific training Review and comply with SSHP Graduate of U.S. Navy EOD School (Escort Personnel only)

Former Benicia Arsenal, Benicia, California

Activity Location and Marking of Search Grids **Analyzed by/Date** _____ **Reviewed by/Date** _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Walk the site Check equipment Load equipment Set transit Set control points Locate grid corners Set stakes and monuments Enter data into GIS	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Poison oak, stinging insects, black widow spider, brown spider Lifting hazards Repetitive motion injury	Must be escorted by EOD-trained personnel Wear clothing appropriate to weather conditions Use sunscreen Watch carefully where you walk Do not step in shadows until you are sure of your footing Shadows may hide small animals, pits, holes, or other areas of unstable footing Carefully choose your footholds when crossing rocky, uneven, or loose ground surfaces Optimize ergonomics of work station within limits of available equipment Take 5-minute break each hour
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
GPS, stakes, hammer approved metal detector ^(a) Hand-held radios Transit, pole, rod, chain, PC Level D PPE (see Section 1.12.1)	Daily check on source with approved metal detector ^(a) . Stay within sight of buddy. Ensure that electrical equipment is properly grounded.	HAZWOPER Qualified Site-specific training Review and comply with SSHP Knowledgeable, familiar, and trained with equipment and ergonomic recommendations Graduate of U.S. Navy EOD School (Escort Personnel only)

Note: (a) As demonstrated at geophysical equipment test plot.

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Activity OE Surface Clearance

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Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Visually inspect ground Inspect ground with Schonstedt magnetometer Remove all OE scrap and metallic debris Flag all suspected OE	OE Weather-related Hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, sand, rocks, gravel, mud Dangerous plants and animals: Poison oak, stinging insects, black widow spider, brown spider Lifting hazards	Must be OE-qualified Wear clothing appropriate to weather conditions Use sunscreen Watch carefully where you walk Do not step in shadows until you are sure of your footing Shadows may hide small animals, pits, holes, or other areas of unstable footing Carefully choose your footholds when crossing rocky, uneven, or loose ground surfaces Optimize ergonomics of instrument handling
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Approved metal detector, pin flags, debris bags, Level D PPE (see Section 1.12.1)	Daily check of metal detector using known source Stay within sweep lanes and/or sight of buddy	Graduate of U.S. Navy EOD School Site-specific training HAZWOPER Qualified Review and comply with SSHP

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Activity Geophysical Investigation

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Conduct magnetometer or electromagnetic sweep of OE grid	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Poison oak, stinging insects, black widow spider, brown spider Lifting hazards	Level D PPE Apply OE safety concepts and basic considerations Proper footing Know heat and cold stress warning signs and proper action Have first-aid kits and fire extinguishers Use eye protection Shadows may hide small animals, pits, holes, or other areas of unstable footing Carefully chose your footholds when crossing rocky, uneven, or loose ground surfaces Optimize ergonomics of instrument handling
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Tow-tractors or ATV (see Section 1.11.5) Magnetometers or EM61 ^(a) , (see Section 1.11.7) Level D PPE (see Section 1.12.1)	Daily check of geophysical equipment using known source	HAZWOPER Qualified Site-specific training Review and comply with SSHP

Note: (a) As demonstrated at geophysical equipment test plot.

Summarized Task Hazard Analysis **Former Benicia Arsenal, Benicia, California**

Activity OE Subsurface Clearance

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Excavate ferrous metal contacts Possible use of heavy equipment	OE Noise Fragmentation Accidental detonation Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, sand, rocks, gravel, mud Dangerous plants and animals: Poison oak, stinging insects, black widow spiders, brown spider Bending and stooping Lifting hazards	Level D PPE Apply OE safety concepts and basic considerations Use sunscreen Watch carefully where you walk Do not step in shadows until you are sure of your footing shadows may hide small animals, pits, holes, or other areas of unstable footing Carefully choose your footholds when crossing rocky, uneven or loose ground surfaces Have first-aid kits and fire extinguishers Use flagging system to mark OE Use eye protection while excavating Optimize ergonomics of instrument handling
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Approved metal detector (see Section 1.11.7) Level D PPE (see Section 1.12.1) Backhoe (see Section 1.11.3)	Daily serviceability of shovels Daily instrument checks Daily instrument checks of backhoe Heavy Equipment Certification (Attachment XX)	Graduate U.S. Navy EOD School HAZWOPER Qualified Site-specific training Review and comply with SSHP (except heavy equipment operators)

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Activity Backfill

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Return excavated soil to opening Compact with feet and shovel	Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Cactus, livestock Bending and stooping Lifting hazards	Level D PPE Wear clothing appropriate to weather conditions Use sunscreen Watch carefully where you walk Do not step in shadows until you are sure of your footing Shadows may hide small animals, pits, holes, or other areas of unstable footing Carefully choose your footholds when crossing rocky, uneven, or loose ground surfaces Optimize ergonomics of instrument handling Use eye protection while backfilling
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Level D PPE (see Section 1.12.1) Shovels Backhoe (see Section 1.11.3)	Daily serviceability of shovels Daily instrument checks of backhoe Heavy equipment certification (Attachment)	HAZWOPER Qualified Site-specific training Review and comply with SSHP Train people in use of tools

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Activity OE Scrap and Metallic Debris Disposal

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Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Picking up scrap Loading onto truck Transport	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, sand, gravel, rocks, mud Dangerous plants and animals: Poison oak, stinging insects, black widow spider, brown spider Lifting heavy objects Vehicle accident Cut hazard Bending and stooping	Inspect vehicle for suitability to travel over terrain Use proper lifting techniques Use only qualified drivers Properly secure load for transport
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Vehicle with rate load capacity of ½ ton or greater, suitable for off-road travel Level D PPE (see Section 1.12.1)	IAW Department of Transportation requirements per 49 CFR	IAW with Department of Transportation, state, and local laws HAZWOPER Qualified Site-specific training Review and comply with SSHP

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Activity OE Identification and Disposal

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Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Explosives handling Setting charges Disposal by detonation	Explosives OE Noise Fragmentation Accidental detonation Lifting hazards Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, sand, rocks, gravel, mud Dangerous plants and animals: Thistle, stinging nettle, poison oak, stinging insects, black widow spider, brown spider	Level D PPE Apply OE safety concepts and basic considerations Proper footing and footwear Remove obstacles on disposal site Use security to deny access to site Know heat and cold stress warning signs and proper action Use TM60 series for specific OE Have first-aid kits and fire extinguishers Educate personnel to stay beyond MSD from disposal site Conduct operations and safety briefing prior to beginning operation Comply with OE Disposal SOP (Appendix G - OE RDD)
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Demolition equipment Firing system Hand tools Level D PPE (see Section 1.12.1) Blast chamber (see Section 4.11 of OE RDD).	Ensure demolition equipment and hand tools are serviceable - to be inspected daily prior to use	Graduate U.S. Navy EOD School HAZWOPER Qualified Site-specific training Review and comply with SSHP Training people in use of tools

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Activity TNT Soil Homogenization

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Use tractor and plow to turn soil Use tractor and disc to turn and breakup soil	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Cactus, livestock Lifting hazards Repetitive motion injury	Wear clothing appropriate to weather conditions Use sunscreen Watch carefully where you walk Wear Level D PPE Have first-aid and fire extinguishers available Optimize ergonomics of work station within limits of available equipment Take 5-minute break each hour
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Tractor (rubber tires) Hand-held radios Level D PPE	Daily Equipment Inspection	HAZWOPER initial 40-hour training Site-specific training Review and comply with SSHP Knowledgeable, familiar, and trained with equipment and ergonomic recommendations

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Activity Soil Excavation/Stockpiling

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Remove non-hazardous construction debris from stockpiles Level remaining soils and OE point clear in lifts	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Vehicle Accident Repetitive motion injury	Must be escorted by UXO Technician Wear clothing appropriate to weather conditions Use sunscreen Observe heavy equipment operation safety Watch carefully where you walk Optimize ergonomics of work station within limits of available equipment Take 5-minute break each hour
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
MTAD geophysical equipment Heavy equipment (front-end loader) Hand-held radios First-aid kit Fire extinguisher Level D PPE (see Section 8.1)	Daily Equipment Inspection	HAZWOPER initial 40-hour training Site-specific training Review and comply with SSHP Knowledgeable, familiar, and trained with equipment and ergonomic recommendations

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Activity TNT Soil Homogenization

Analyzed by/Date _____

Reviewed by/Date _____

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Water truck for dust control Use tractor and plow to turn soil Use tractor and disc to turn and break up soil Use PM ₁₀ sampling equipment for dust sampling	OE Weather-related hazards: Wind, rain, sun, heat, cold Walking surfaces: Unimproved land, range land, sand, rocks, gravel, mud Dangerous plants and animals: Cactus, livestock Lifting hazards Repetitive motion injury	Wear clothing appropriate to weather conditions Use sunscreen Watch carefully where you walk Wear Level D PPE Optimize ergonomics of work station within limits of available equipment Take 5-minute break each hour
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Water truck Excavating equipment with smooth-lipped buckets PM ₁₀ sampling equipment Level D PPE Note: All equipment will have sealed bearings and shielded electrical junction boxes	Daily Equipment Inspection	HAZWOPER initial 40-hour training Site-specific training Review and comply with SSHP Knowledgeable, familiar, and trained with equipment and ergonomic recommendations

